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COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

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September 28, 1998



Mr. Abraham Ferdas, Division Director
Hazardous Site Cleanup Division (3HS00)
U.S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, PA 19103-2029

Site 6

Re: Final Record of Decision for CD Landfill (OU 2), Naval Norfolk Base

Dear Mr. Ferdas:

The Virginia Department of Environmental Quality (VDEQ) staff has reviewed the above referenced Record of Decision (ROD) for the CD Landfill site. We concur with the selected remedial alternative as outlined in the ROD dated September 1998.

Should you have any questions concerning this letter, please feel free to contact Devlin Harris at (804) 698-4226.

Very truly yours,

Dennis H. Treacy

cc: Randy Jackson - LANTDIV
Harry Harbold - EPA Region III
Erica Dameron - VDEQ
Devlin Harris - VDEQ



DIVISION OF WASTE PROGRAM
COORDINATION

**OFFICE OF REMEDIATION
PROGRAMS**

MEMORANDUM

TO: Dennis H. Treacy

THROUGH: Hassan Vakili

FROM: Erica Dameron

SUBJECT: CD Landfill, Operable Unit (OU2) ROD, Norfolk Naval Base

DATE: September 22, 1998

Background:

Norfolk Naval Base is located on approximately 4600 acres of land situated northwest of the City of Norfolk. The base began operating in 1917 when the Navy acquired approximately 474 acres of land to construct a naval base to support the war effort. Norfolk Naval Base was proposed to the National Priorities List (NPL) in 1996, and finalized in 1997. The CD Landfill site is located south of Admiral Taussig Boulevard. The site is bordered by the Naval Exchange area to the north, Naval Air Station (NAS) to the east, a long-term parking facility to the south, and Hampton Boulevard to the west. Seabee Road cuts across the western portion of the site.

The CD Landfill is 22 acres in size. At present, the majority of the landfill is vegetated and partially fenced to limit public access. The CD Landfill was formerly used for the disposal of construction debris and other material. The Navy purchased the land in 1974. Prior to that, the land was owned and operated as a rail yard by the Western Railway Company. The site incorporates two areas of land filling operations: the eastern most (unpermitted) section, and the western (permitted) section. From 1974 to 1979, the unpermitted portion of the landfill received demolition debris, inert solid waste, fly ash and incinerator residue, sandblasting grit, and spent rice hulls.

In October 1979, the Naval Facilities Engineering Command received a permit from the Virginia Department of Health to use the landfill (western portion) for disposal of demolition debris and other non-putrescible wastes, excluding fly ash, incinerator residues, chemicals, and asbestos.

Blasting grit used for sandblasting cadmium-plated aircraft parts was deposited in the landfill until 1981. At that time, the blasting grit was tested and found to exceed the EP toxicity limit for cadmium. The grit was classified as hazardous waste and on-site disposal of the material ceased. Land filling operations continued in the western portion of the landfill until 1987.

Previous Investigations:

The CD Landfill has been the subject of several investigations from 1982 to 1997. Results of these investigations indicate that land filling activities have impacted soils, shallow groundwater, and surface water. Soil data indicate that inorganic (metals) contamination is widely distributed over the site. Arsenic, beryllium, lead, and manganese were most prevalent. Semi-volatile organic compounds and pesticides were also found in one soil boring. The widespread cadmium contamination, suspected by past disposal practices, was not found during the Remedial Investigation (RI) study. Results of the RI indicate that shallow groundwater is contaminated primarily with metals, including arsenic, beryllium, and lead, which were present across the site. In June of 1997, additional sampling was conducted in accordance with Virginia Hazardous Waste Management Regulations (VHWMR §3.9A) to characterize the fill material and determine if it contained hazardous constituents. Based on the statistical finding of the sampling effort, it was determined that the fill material at the CD Landfill was not hazardous and based on an agreement with DEQ, would be closed as an industrial waste landfill under Virginia Solid Waste Management Regulations (VSWMR).

A human health and ecological risk assessment was performed at the CD Landfill to evaluate risk associated with contaminated soils and groundwater. Current and future land use is non-residential. Results of the risk assessment indicate that a lifetime cancer risk from soils and groundwater exposure for the workers at the CD Landfill is within the EPA's acceptable risk range of 1×10^{-6} to 1×10^{-4} . The hazard index (HI) for the non-carcinogenic risk was acceptable. The ecological assessment concluded that there is no indication that an ecological risk exists as a result of contamination associated with this site.

Remedial Action:

The selected remedy in this Record Of Decision (ROD) is to permanently control the contaminated soil, groundwater, and surface water for the CD Landfill site. The major components of the selected remedy for OU 2 include the following:

- Installation of a composite cap over the entire 22-acre landfill designed in accordance with the requirements of the Virginia Solid Waste Management Regulations for an industrial waste landfill, Part E of 9 VAC 20-80-270;

- Land use restrictions to prevent future residential development, public access, and use of shallow groundwater for any purpose except monitoring;

- Post-closure quarterly shallow groundwater monitoring for one year that meets the requirements of the Virginia Solid Waste Management Regulations, Part D of 9 VAC 20-80-270. After an analysis of the first year of groundwater monitoring data, the sampling frequency may change to annual sampling for the groundwater quality parameters, and semi-annually for the groundwater contamination indicator parameters. Post-closure shallow groundwater monitoring shall be conducted for ten years;

- Implementation of a quarterly deep aquifer groundwater monitoring program if organic contaminants are detected in the shallow groundwater at the site. Monitoring requirements will be evaluated after a period of two years;

- Quarterly surface water sampling at three locations at the site boundary. Monitoring requirements will be evaluated after a period of two years.